CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/KRIDL/W.No.03/CSR-04/310g/CEMENT/2017-18 Date: 03.04.2017

TEST REPORT ON CEMENT

* Customer	:	**Asst. Executive Engineer,** Yelahanka Satellite Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to Roads and Drains in Attur Village Govt. School road, Post office road of Attur Ward No.03, BBMP, Bangalore.
* Reference	:	BBMP/EE(YNK.D)/W.O/144/2016-17 Dated: 31.03.2017
* Sample ID	:	Cement
Sample Received on	:	01.04.2017
Period of Testing	:	01.04.2017 to 03.04.2017

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988 (RA-2014)	28.50 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	180 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	475 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988 (RA-2014)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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ಸಹಾಯಕ ಅಭಿಯಂತರರ ಕಚೇರಿ
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ
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AE-03

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VIDYARANI P.K.
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CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

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Job No.: CTCE/BBMP/KRIDL/W.No.03/CSR-04/310g/SAND-Gradation/2017-18 03.04.2017

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Yelahanka Satellite Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to Roads and Drains in Attur Village Govt. School road, Post office road of Attur Ward No.03, BBMP, Bangalore.
* Reference	:	BBMP/EE(YNK.D)/W.O/144/2016-17 Dated: 31.03.2017
* Sample ID	:	Fine Aggregates (Manufactured Sand)
Technical Reference	:	IS : 2386 (Part 1) - 1963 (RA-2011)
Sample Received On	:	01.04.2017
Date of Testing	:	03.04.2017

Total Wt. of Aggregates in gms = 1000

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	96.80	90-100	90-100	90-100	95-100
2.36	77.80	60-95	75-100	85-100	95-100
1.18	55.80	30-70	55-90	75-100	90-100
600 Micron	27.80	15-34	35-59	60-79	80-100
300 Micron	15.00	5-20	8-30	12-40	15-50
150 Micron	5.10	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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AE-03

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Job No.: CTCE/BBMP/KRIDL/W.No.03/CSR-04/310g/AGG/GR/2017-18

03.04.2017

TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Yelahanka Satellite Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to Roads and Drains in Attur Village Govt. School road, Post office road of Attur Ward No.03, BBMP, Bangalore.
* Reference	:	BBMP/EE(YNK.D)/W.O/144/2016-17 Dated: 31.03.2017
* Sample ID	:	Coarse Aggregates (40mm)
Technical Reference	:	IS : 2386 (Part 1) -1963 (RA-2011)
Sample Received on	:	01.04.2017
Date of Testing	:	03.04.2017

Total Wt. of Aggregates in gms= 5000

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	96.94	95-100	85-100
20	36.94	30-70	0-20
10	16.94	10-35	0-5
4.75	3.16	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits.

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Job No.: CTCE/BBMP/KRIDL/W.No.03/Steel/2017-18

05.04.2017

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** Yelahanka Satellite Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of work	:	Improvements to Roads and Drains in Attur Village Govt. School road, Post office road of Attur Ward No.03, BBMP, Bangalore.
* Reference	:	BBMP/EE(YNK.D)/W.O/144/2016-17 Dated: 31.03.2017
* Samples ID	:	8mm Bar
Technical Reference	:	IS: 1786-2008
Date of Testing	:	05.04.2017

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	8	0.39	511	513	13.1	O.K	O.K

*Information is furnished by the Customer/Representative.

Civil-Tech Consultants & Engineers Bangalore

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Job No.: CTCE/BBMP/KRIDL/W.No.03/Steel/2017-18 05.04.2017

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** Yelahanka Satellite Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of work	:	Improvements to Roads and Drains in Attur Village Govt. School road, Post office road of Attur Ward No.03, BBMP, Bangalore.
* Reference	:	BBMP/EE(YNK.D)/W.O/144/2016-17 Dated: 31.03.2017
* Samples ID	:	10 mm Bar
Technical Reference	:	IS: 1786-2008
Date of Testing	:	05.04.2017

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	10	0.62	512	514	13.35	O.K	O.K

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CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

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Job No.: CTCE/BBMP/KRIDL/W.No.03/CSR-04/310g/Cube/2017-18

14.04.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Yelahanka Satellite Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	:	Improvements to Roads and Drains in Attur Village Govt. School road, Post office road of Attur Ward No.03, BBMP, Bangalore.
* Reference	:	BBMP/EE(YNK.D)/W.O/144/2016-17 Dated: 31.03.2017
* Sample ID	:	RCC Drain Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	7^{th} day
Sample Received on	:	14.04.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	07.04.2017	14.04.2017	8.165	328.3	14.59
2	07.04.2017	14.04.2017	8.209	335.6	14.92
3	07.04.2017	14.04.2017	8.325	346.5	15.40

*Information is furnished by the Customer/Representative.

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AE-03

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CIVIL-TECH CONSULTANTS AND ENGINEERS

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Job No.: CTCE/BBMP/KRIDL/W.No.03/CSR-04/310g/Cube/2017-18

14.04.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Yelahanka Satellite Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	:	Improvements to Roads and Drains in Attur Village Govt. School road, Post office road of Attur Ward No.03, BBMP, Bangalore.
* Reference	:	BBMP/EE(YNK.D)/W.O/144/2016-17 Dated: 31.03.2017
* Sample ID	:	RCC Drain Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	7^{th} day
Sample Received on	:	14.04.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	07.04.2017	14.04.2017	8.226	330.2	14.68
2	07.04.2017	14.04.2017	8.308	336.5	14.96
3	07.04.2017	14.04.2017	8.405	343.5	15.27

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AE-02

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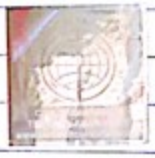
Job No.: CTCE/BBMP/KRIDL/W.No.03/CSR-04/310g/Cube/2017-18 17.04.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Yelahanka Satellite Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	:	Improvements to Roads and Drains in Attur Village Govt. School road, Post office road of Attur Ward No.03, BBMP, Bangalore.
* Reference	:	BBMP/EE(YNK.D)/W.O/144/2016-17 Dated: 31.03.2017
* Sample ID	:	RCC Drain Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	7^{th} day
Sample Received on	:	17.04.2017



Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	10.04.2017	17.04.2017	8.225	325.5	14.47
2	10.04.2017	17.04.2017	8.329	339.2	15.08
3	10.04.2017	17.04.2017	8.406	346.5	15.40

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AE W3

AE-03

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Job No.: CTCE/BBMP/KRIDL/W.No.03/CSR-04/310g/Cube/2017-18

17.04.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Yelahanka Satellite Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	:	Improvements to Roads and Drains in Attur Village Govt. School road, Post office road of Attur Ward No.03, BBMP, Bangalore.
* Reference	:	BBMP/EE(YNK.D)/W.O/144/2016-17 Dated: 31.03.2017
* Sample ID	:	RCC Drain Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	7^{th} day
Sample Received on	:	17.04.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	10.04.2017	17.04.2017	8.125	330.3	14.68
2	10.04.2017	17.04.2017	8.208	340.6	15.14
3	10.04.2017	17.04.2017	8.357	350.8	15.59

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AE W3

AE-03

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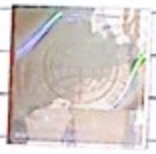
Job No.: CTCE/BBMP/KRIDL/W.No.03/CSR-04/310g/Pre Slab/2017-18

12.04.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CORE

* Customer	:	Asst. Executive Engineer, Yelahanka Satellite Sub Division, BBMP, Bangalore.
* Agency	:	Technical Manager (West), KRIDL, Bangalore.
* Name of work	:	Improvements to Roads and Drains in Attur Village Govt. School road, Post office road of Attur Ward No.03, BBMP, Bangalore.
* Reference	:	BBMP/EE(YNK.D)/W.O/144/2016-17 Dated: 31.03.2017
* Sample ID	:	Precast slab (100mm thick)
* Grade of Concrete	:	M_{20}
Techinical Reference	:	IS:516-1959 (RA- 2013), SP-24:1983.
Sample Received on	:	08.04.2017
Date of Testing	:	12.04.2017



Sl. No	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	78.00	0.389	2539.95	1.56	0.952	30.50	15.53	16.78	17.61	22.02
2	50.00	79.00	0.392	2527.14	1.58	0.955	32.55	16.58	17.90	17.09	21.36
3	50.00	80.00	0.399	2540.11	1.60	0.957	33.80	17.21	18.59	17.79	22.24

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AE-03

AE-02

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